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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,672	11/10/2003	William T. Clark	M0506-703330	4665
37462	7590	01/05/2005	EXAMINER	
LOWRIE, LANDO & ANASTASI RIVERFRONT OFFICE ONE MAIN STREET, ELEVENTH FLOOR CAMBRIDGE, MA 02142			MAYO III, WILLIAM H	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/705,672	CLARK, WILLIAM T.
	Examiner William H. Mayo III	Art Unit 2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 December 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 7-17 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>04/09/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group II claims 7-17 in the reply filed on December 2, 2004 is acknowledged. The traversal is on the ground(s) that the search and examination of all of the pending claims in the application can be made without undue burden on the Examiner. This is not found persuasive because a restriction requirement is proper if the inventions are distinct from each other. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP 806.05(d)).

In the instant case, the core of the data cable could be made by a different process, such as injection molding or casting, rather than extrusion molding. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Therefore, the requirement is still deemed proper and is therefore made FINAL.

***Priority***

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

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3. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented, pending, or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or

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120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A priority claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed claim for priority under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

4. Specifically, the applicant should state whether US Patent Application 10/430,365 is patented, pending, or abandoned.

***Information Disclosure Statement***

5. The information disclosure statement filed April 9, 2004 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

***Drawings***

6. The drawings are objected to because Figures 1, 3-4, 9B, 11, and 13 lack the proper cross-hatching, which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductor, jacket, and insulation materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 7 recites the limitation "the data cable" in lines 5-6, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "shielded cable" or introducing a new data cable. If the applicant is referring to the previous mentioned term, then he/she should recite the term with

consistency. If the applicant is referring to a new data cable, then he/she should make the term more distinguishable.

10. Claim 8 is depended upon rejected claim 7 and is therefore also rejected.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

- A person shall be entitled to a patent unless –
  - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Gaeris et al (Pat Num 5,789,711, herein referred to as Gaeris). Gareis discloses a shielded cable (Figs 1-4) comprising a core that provides structural stability and reduces crosstalk among the plurality of twisted pairs of conductors (Col 3, lines 26-32). Specifically, with respect to claim 7, Gaeris discloses a shielded cable (Fig 1) comprising a plurality of twisted pairs of insulated conductors (34) including a first and second twisted pairs (Fig 1), a core (10) disposed between the plurality of twisted pairs of insulated conductors (34) so as to separate the first twisted pair from the second twisted pair (Fig 1) along a length of the data cable (Fig 1, Col 4, lines 3-5), a dual layer jacket (38 & 36) enclosing the core (10) and the plurality of twisted insulated conductors (34), wherein the dual jacket layer (38 & 36) includes a first jacket layer (38) and a second jacket layer (36), and wherein a shield (40) is disposed between the first jacket layer (38) and the second jacket layer (36, Col 5, lines 13-19).

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaeris (Pat Num 5,789,711) in view of Boucino (EP 1 162 632 A2). Gareis discloses a shielded cable (Figs 1-4) having improved impedance determination (Col 1, lines 60-65) as disclosed above with respect to claim 7.

However, Gaeris doesn't specifically disclose the core comprising a plurality of pinch points disposed along the length of the core, wherein a diameter of the core at each of the plurality of pinch points being substantially reduced compared with a maximum diameter of the core (claim 8).

Boucino teaches a communication cable (Figs 1-8) comprising a core that reduces crosstalk among the plurality of twisted pairs of conductors (Col 3, lines 26-32). Specifically, with respect to claim 8, Boucino teaches a cable (110, Fig 3) comprising a core (114) comprising a plurality of pinch points (area between 138a and 138b) disposed along the length of the core (114), wherein a diameter of the core (114) at each of the plurality of pinch points (area between 138a and 138b) being substantially reduced compared with a maximum diameter (138a & 138b) of the core (114).

With respect to claim 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the insulated wire of Gaeris to comprise the core configuration as taught by Boucino because Boucino teaches that such a configuration provides a communication cable that reduces crosstalk among the plurality of twisted pairs of conductors (Col 3, lines 26-32).

15. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friesen et al (Pat Num 6,194,663, herein referred to as Friesen) in view of Gaeris (Pat Num 5,789,711). Friesen discloses a cable (Figs 1-5), which is capable of high rate transmission of data streams at a relatively low level of cross talk but also provides significant enhancement in the balance of insertion loss and characteristic impedance from one conductor pair to other conductor pairs (Col 2, lines 55-60). Specifically, with respect to claim 15, Friesen discloses a cable (20, Figs 1a-1b) comprising a plurality of twisted pairs (43-43) of insulated conductors (42-42) including a first twisted pair (top twisted pair in Fig 1b) and a second twisted pair (bottom twisted pair in Fig 1b), a jacket (58) surrounding the plurality of twisted pairs (43-43) of insulated conductors (42-42), wherein the first twisted pair (top twisted pair in Fig 1b) has a first twist layer, a first insulation thickness, and a first nominal impedance (Fig 1b, Col 5, lines 1-21) and the second twisted pair (bottom twisted pair in Fig 1b) has a second twist layer larger than the first twist length (Fig 1b), a second insulation thickness, and a second nominal impedance (Fig 1b, Col 5, lines 1-21) that is lower than first nominal impedance (see Col 7, tables shown that second twisted pair 2 has an impedance of 99.90 and first twisted pair 1 has a impedance of 100.98), wherein the first and second twist lays and

the first and second nominal impedances would inherently have a skew between the first and second twisted pairs is less than about 21 ns per 100 meters and the difference between the first and second nominal impedances is between approximately 2-15 Ohms (Col 9, lines 12-15). With respect to claim 16, Friesen discloses that the first insulation thickness may be the same as the second insulation thickness (see Col 7, tables indicate that twisted pair 1 & 2 have the same insulation thickness). With respect to claim 17, Friesen discloses that the first insulation thickness may be the larger than the second insulation thickness (see Fig 1b).

However, Friesen doesn't necessarily disclose the cable having a core disposed between the plurality of twisted pairs of insulated conductors so as to separate the first twisted pair from the second twisted pair (claim 15).

Gareis teaches a cable (Figs 1-4) comprising a core that provides structural stability, reduces crosstalk among the plurality of twisted pairs of conductors, and provides improved impedance determination because of the ability to precisely place the twisted pairs (Col 3, lines 26-32). Specifically, with respect to claim 15, Gareis teaches a cable (Fig 1) comprising a plurality of twisted pairs of insulated conductors (34) including a first and second twisted pairs (Fig 1) and a core (10) disposed between the plurality of twisted pairs of insulated conductors (34) so as to separate the first twisted pair from the second twisted pair (Fig 1) along a length of the data cable (Fig 1, Col 4, lines 3-5).

With respect to claim 15, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Friesen to

comprise the core configuration separating the twisted pairs as taught by Gaeris because Gaeris teaches that such a configuration provides a cable having structural stability, reduces crosstalk among the plurality of twisted pairs of conductors, and provides improved impedance determination because of the ability to precisely place the twisted pairs (Col 3, lines 26-32).

16. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al (Pat Num 6,248,954, herein referred to as Clark) in view of Clark et al (Pat Num 6,303,867, herein referred to as Clark2). Clark discloses a bundled cable (Fig 11) having multiple twisted pair wires having desired crosstalk performance, improved handling, and termination capabilities, that is inexpensive, flexible, and has desired size (Col 2, lines 50-55). Specifically, with respect to claim 9, Clark discloses a first cable (top left 10) including a plurality of twisted pairs (12) of insulated conductors (13) and a first separator (14) arranged between the plurality of twisted pairs (12) to separate one of the plurality of twisted pairs (12) from other twisted pairs (i.e. four twisted pairs 12 are separated from each other), wherein the first cable (top right 10) has a first jacket (16) and a second cable (bottom right 10) including a plurality of twisted pairs (12) of insulated conductors (13) and a second separator (14) arranged between the plurality of twisted pairs (12) to separate one of the plurality of twisted pairs (12) from other twisted pairs (i.e. four twisted pairs 12 are separated from each other), wherein the second cable (top right 10) has a second jacket (16). With respect to claim 13, Clark discloses that the first and second separators (top left 14 and bottom right 14) are non-conductive (Col 5, lines 10-30). With respect to claim 14, Clark discloses that the bundled cable

(22) may be helically twisted in an oscillating manner such that the bundled cable (22) comprising first region having a clockwise twist lay and a second region having an anticlockwise twist lay (i.e. S-Z configuration, Col 8, lines 65-67).

However, Clark doesn't necessarily disclose the first and second jackets comprising a plurality of protrusions (claim 9), nor the plurality of protrusions of the first jacket being inwardly projecting (claim 10), nor the plurality of protrusions of the second jacket being inwardly projecting (claim 11), nor the plurality of protrusions of each of the first and second jackets being outwardly projecting wherein the first and second jackets are adapted to mate with one another so as to lock the first cable to the second cable (claim 12).

Clark2 teaches a plurality of cables (Figs 1-11) having a configuration wherein the crosstalk between the transmission media is reduced and the alien crosstalk between adjacently disposed or stacked cables are also reduced (abstract). Specifically, with respect to claim 9, Clark teaches a cable (Figs 9-10) comprising a first cable (532) comprising a plurality of twisted pairs (502-505) and a first jacket (top left 502) comprising a plurality of protrusions (506) and a second cable (530) comprising a plurality of twisted pairs (502-505) and a second jacket (bottom 502) comprising a plurality of protrusions (506). With respect to claim 10, Clark teaches that the plurality of protrusions (506) of the first jacket (top left 502) project inwardly (Col 7, lines 40-42). With respect to claim 11, Clark teaches that the plurality of protrusions (506) of the second jacket (bottom 502) project inwardly (Col 7, lines 40-42). With respect to claim 12, Clark teaches that the first and second cables (532 & 530) may comprise a plurality

of protrusions (508) of each of the first and second jackets (top left and bottom 502) projecting outwardly wherein the first and second jackets (top left and bottom 502) are adapted to mate with one another so as to lock the first cable (532) to the second cable (530, Col 7, lines 50-60).

With respect to claims 9-12, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the first and second cables of Clark to comprise the jacket configuration as taught by Clark2 because Clark2 teaches that such a configuration provides a configuration wherein crosstalk between the transmission media is reduced and the alien crosstalk between adjacently disposed or stacked cables is also reduced (abstract) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Glew et al (Pat Num 6,639,152), Swift (Pat Num 2,583,026), Swift et al (Pat Num 2,583,025), Grant et al (Pat Num 6,169,251), Blouin et al (Pat Num 6,365,836), Gareis (Pat Num 6,297,454), Sackett (Pat Num 6,140,587), Shoffner (Pat Num 4,892,442), Dupuis (Pat Num 6,469,251), Neveux, Jr (Pat Num 6,506,976), Boucino (Pat Num 6,800,811), and Newmoyer (Pat Num 5,619,016), all of which discloses cables.

***Communication***

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III  
Primary Examiner  
Art Unit 2831

WHM III  
December 28, 2004